Met Office

September 2016

The averaging period used for the following assessment was 1981-2010.

UK Overview

At the start of September the weather was changeable with high pressure to the south and a west to south-westerly airflow over the UK. The unsettled regime continued for the first five days, but southerly incursions brought hot and humid weather, especially to the south-east, on the 7th and 13th-15th, separated by a wet spell on the 8th-10th. The 13th saw the UK's highest September temperatures since 1911, but at the same time there were widespread thunderstorms in the west. The second half was changeable with frequent frontal systems interspersed with brief fine interludes, but temperatures generally remained above the seasonal average.

The UK mean temperature was 14.6 °C, which is 2.0 °C above the 1981-2010 long-term average, making it the equal second warmest September in a series from 1910. The positive temperature anomaly was generally higher by night than by day, especially in the west. Rainfall was 101% of average, and it was a dry month in most counties bordering the North Sea, but a wet month in many western counties. Sunshine was 96% of average, and was mostly near or rather below average except in East Anglia, north-east England and Aberdeenshire.

The UK monthly extremes were as follows: A maximum temperature of 34.4 °C was recorded at Gravesend (Kent) on the 13th, the UK's highest temperature of the year. A minimum temperature of 0.1 °C was recorded at Katesbridge (County Down) on the 22nd, and at Aboyne (Aberdeenshire) on the 26th. In the 24 hours ending at 0900 GMT on the 16th, 84.2 mm of rain fell at Cleeve Lock (Oxfordshire). A wind gust of 62 knots (71 mph) was recorded at Loch Glascarnoch (Ross & Cromarty) on the 27th.

Weather impacts

Rain on the 3rd led to localised flooding across parts of Devon, with a fallen tree blocking the Western Bypass in Totnes. In south Wales, rail services in the Rhondda were cancelled due to flooding, the Newport v Barnet football match was abandoned, and flooding was reported in the Neath Valley, Swansea Bay and Carmarthenshire.

On the 13th, heavy downpours and thunderstorms caused disruption, particularly over the Manchester area, where widespread surface water flooding affected the conurbation's roads, with the Metrolink tram system completely taken out for a time after lightning strikes at several substations. Manchester City's game in the Champions League was postponed, and there was flooding of various major stores in Manchester city centre, including the Arndale Centre. A section of the M56 was closed for a time due to surface water flooding, and Manchester Town Hall was flooded for the first time in decades. West Cornwall also experienced localised flooding and lightning impacts during the 13th and overnight into the 14th.

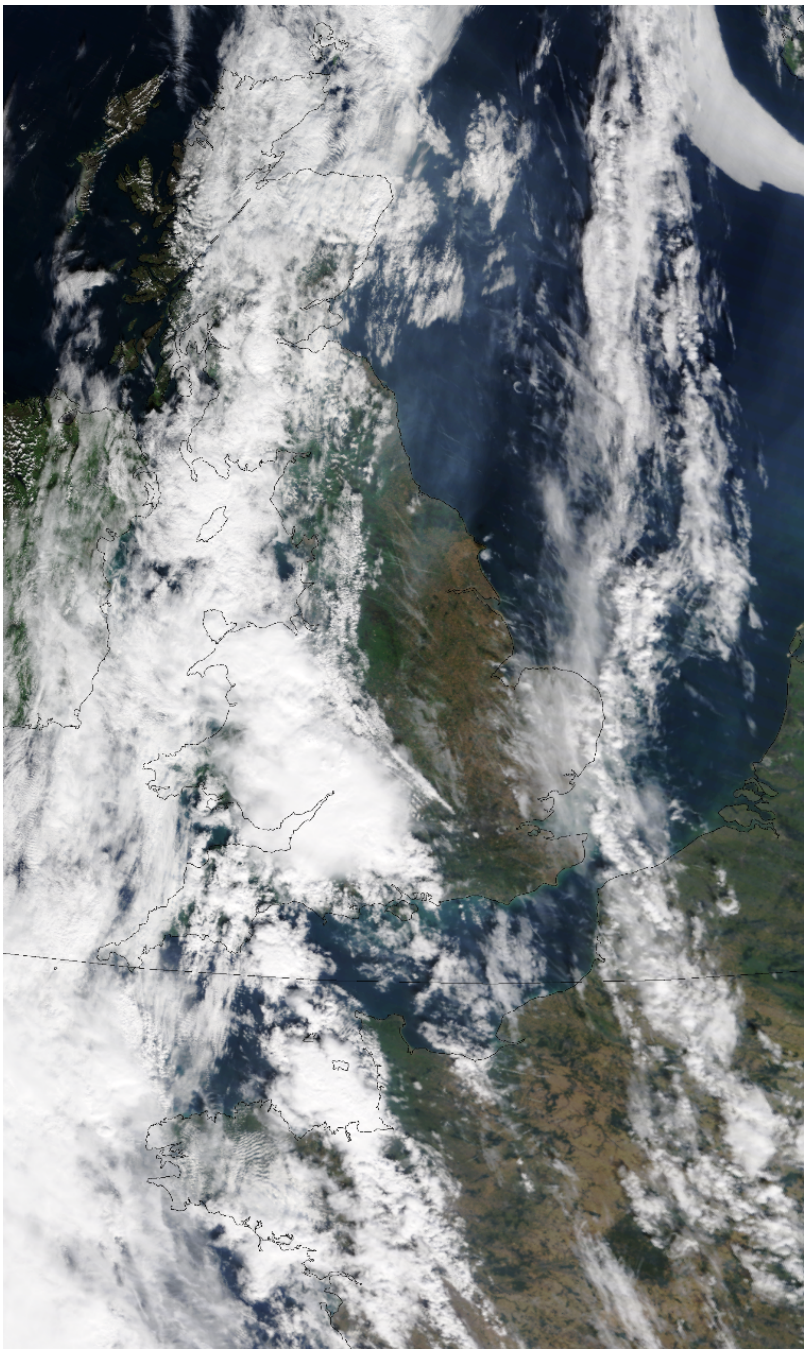
On the 15th, very intense bursts of rain led to localised surface water flooding impacts being reported across the Thames Valley, north London, Surrey and Hampshire, with road closures and disruption to the rail network. On the morning of the 16th, very heavy rain caused localised property flooding and lightning damage, and affected road and rail links in the south-east. A train was derailed near Watford Junction after flooding caused a landslide at the mouth of a tunnel, causing many train cancellations from Euston. Trains to and from Paddington station were also disrupted due to power and signalling problems, and Didcot Parkway and Newbury stations were flooded. Flooding caused major delays on the M25, M4 and M40. Torrential rain and

lightning caused power outage to 38,000 properties in parts of Teesside, County Durham and Northumberland, with damaged signalling disrupting rail travel between Durham and Morpeth.

On the 24th, a number of local events were cancelled in west-central and south-west Scotland due to rain, and flooding closed the A85 near Oban during the afternoon, with water pouring from the nearby hillside.

On the 29th, strong winds caused disruption to ferries and bridge restrictions, signalling problems caused by the winds disrupted rail services between Wick and Inverness, and 500 properties across Inverness, Aberdeenshire, Perthshire and Orkney were without power for a time.

The satellite image below, for 13 September 2016, shows the UK in a southerly airflow drawing warm, humid air from France and Spain. Gravesend (Kent) recorded 34.4 °C, the UK's highest temperature of the year and highest September temperature since 1911. Image copyright Met Office / NASA



England diary of highlights

September began changeable with a west to south-westerly airstream. It generally turned warmer and more settled as the first half progressed, though with a wet interruption on the 8th-10th, with some unusually warm

nights. A heatwave later in the second week saw the highest temperatures in September since 1911, with 34.4 °C at Gravesend (Kent). The second half was generally unsettled but temperatures remained mostly above average.

The mean temperature for September was 2.2 °C above the 1981-2010 long-term average, making it the third warmest September in the series (after 1949 and 2006). The positive anomaly was generally a little larger by night than by day. Rainfall was 90% of average, and it was a dry month in counties bordering the North Sea, except Lincolnshire and East Anglia, but wet in many western areas. Sunshine was 99% of average, and it was sunnier than average in East Anglia and north-east England, but it was a cloudy month in most western districts.

1st to 7th:

The 1st was dry and sunny, but clouded over in the north-west with some rain from mid-afternoon. The 2nd was a cloudy day for most with patchy rain across the far south later, but it was quite sunny in the far north. The 3rd was wet with heavy rain spreading east to all regions culminating in 36.8 mm at Carlisle and windy with the Needles (Isle of Wight) recording a maximum gust of 62 mph. It was wet again on the 4th in many places, especially Cornwall, Hampshire and Gloucestershire, but with some sunshine in the north and east. Overnight rain cleared slowly on the 5th leaving a cloudy but warm day. The 6th was largely dry and increasingly warm, and it stayed warm overnight. The 7th was mainly cloudy and dry with patchy mist and fog in the morning, but brighter in the afternoon and warm with a maximum of 29.3 °C at Gravesend (Kent).

8th to 10th:

The 8th started cloudy and wet across south-west England, with the rain moving north across West Midlands up to north-west England, drier and brighter across east and south-eastern counties with the rain petering out in the afternoon. The 9th was cloudy with a few showers before more heavy rain moved in across Cumbria mid-afternoon and moved slowly south-eastwards, and it became breezy in the north-west, but it stayed dry across the south-east. It was wet in East Anglia, the Midlands and central southern England on the 10th, drier and brighter elsewhere.

11th to 16th:

Scattered morning showers over the south-west cleared early to leave the 11th dry and sunny, and Shoeburyness (Essex) recorded 12.3hrs of sunshine. It was dry for most and warm on the 12th with temperatures in the mid 20s Celsius in the south-east. Gravesend (Kent) claimed the hottest day of the year so far on the 13th with 34.4 °C, the highest in the UK in September since 1911, while severe thunderstorms and torrential downpours spread north through western areas. The 14th was hot and sunny in the south-east, bur cooler and cloudier along the Northumbrian coast. Widespread fog cleared to the east coast on the 15th, leading to a hot day with thunderstorms over the south from mid-afternoon with Amersham (Buckinghamshire) recording 49.2 mm. Thundery downpours across the south-east on the 16th led to flash flooding with 48.0 mm of rain recorded at Manston (Kent).

17th to 23rd:

The 17th was cloudy with patchy rain or showers over eastern counties, dry and bright or sunny elsewhere. The 18th had a foggy start in the south-east, but it was bright or sunny elsewhere with rain reaching the north-west by early evening. Sunny spells for the north-west on the 19th, cloudy elsewhere with persistent rain for central and southern parts. The 20th was a cloudy day with fog over north-east coasts and patchy rain in the south and east. The 21st had a misty/foggy start, remaining cloudy with heavy showers developing in the afternoon across northern areas and Hampshire, ahead of a cold front bringing more persistent rain into Cornwall and Cumbria later. The 22nd had a cloudy and damp start with rain moving east, clearing the east coast around lunchtime with drier and brighter weather following on behind with only a few showers over Hampshire. The 23rd had a cool start with overnight minimum of 2.4 °C recorded at South Newington

(Oxfordshire), becoming mainly dry with sunny intervals, but cloud increased over Cumbria towards evening with isolated showers.

24th to 30th:

The 24th started mainly dry with sunny spells for most, but it was cloudy in the north-west, and rain spread from the west in the evening. The 25th was cloudy with rain over the east to start, clearing away to leave sunshine and blustery showers. The 26th saw rain in the west moving east to all areas except the far south-east. It was cloudy with patchy rain on the 27th, brightening up from the north-west during the day. The 28th was bright or sunny over the bulk of the country, cloudier over the south-west and wet over the north. The 29th saw a band of cloud and rain clear Kent around lunchtime, brighter in the afternoon but with heavy showers over the north-west. The 30th was a day of sunny spells and scattered showers.

Wales diary of highlights

September began unsettled with a west to south-westerly airflow, and this unsettled but warm regime lasted until the 9th. It was often warmer and more settled in the second week, and hot in some areas on the 14th. The second half of the month saw a return to unsettled weather with mostly above-average temperatures.

The mean temperature for September was 1.7 °C above the long-term average, and the mean minimum temperature was the second highest in a series from 1910. Rainfall was 116% of average and sunshine was 96% of average, and it was a cloudy and wet month in the south and south-west, but drier and sunnier than average in the far north-east.

1st to 9th:

The 1st was bright or sunny before cloud and rain spread to the north by late afternoon. Patchy rain cleared early on the 2nd to leave a largely dry day. A very wet day for all on the 3rd, especially across Gwynedd and the Brecon Beacons, with Tredegar (Gwent) recording 54.0 mm and wind gusts around 55 mph across the Llyn and Gower Peninsulas. It started largely dry after early showers on the 4th then turned increasingly cloudy with rain throughout later, heaviest in Ceredigion. The 5th was mostly dry after overnight rain but remained cloudy. The 6th was quite warm but cloudy with outbreaks of drizzle or patchy rain. The 7th was mainly cloudy and dry with patchy mist/fog in the morning, but a few sunny intervals developed into the afternoon and warm with temperatures widely in the mid 20s Celsius. The 8th started cloudy and wet across much of Wales, with the rain moving north, clearing the north coast by mid-morning; feeling warm, but breezy along western coastal areas. The 9th had a mainly cloudy start with a few showers before more heavy rain moved in from the west mid-afternoon and moved slowly eastwards, and it became windy in the north-west with a 68 mph gust recorded at Capel Curig (Gwynedd).

10th to 15th:

Patchy rain in the south-east cleared away on the 10th leaving a bright afternoon and evening. Isolated early showers cleared away on the 11th to leave a dry sunny day. It was largely dry but cloudy and quite warm on the 12th, with any showers confined to the west. It was showery on the 13th with thundery downpours advancing northwards through Powys and temperatures no lower than 17.0 °C overnight across the Gower. The 14th was very warm and sunny with a maximum temperature of 28.3 °C recorded at Porthmadog (Gwynedd) and 10.4 hours of sunshine recorded at St Athan (South Glamorgan). The 15th started with fog in places clearing to leave a warm and sunny day.

16th to 23rd:

The 16th started cloudy but turned brighter, and it was breezy and cooler than of late. The 17th was dry and sunny. The 18th started chilly with an overnight minimum temperature of 3.8 °C recorded at Sennybridge (Powys) but a bright and mainly dry day followed, though with rain reaching the west later. It was bright in the

north-west on the 19th, cloudy elsewhere with rain for the south and east clearing away into the afternoon. Dry on the 20th with sunny spells down the west coast, cloudier elsewhere. The 21st had a misty/foggy start and remained cloudy with some showers developing in the afternoon. The 22nd saw a cloudy and damp start with early rain clearing the eastern counties, then drier and brighter but showery weather followed, becoming breezy in the north-west. The 23rd was a mainly dry and bright day with isolated showers in the south during the morning and becoming breezy in the north-west.

24th to 30th:

The 24th was mainly cloudy and dry at first but rain spread from the west during the afternoon, and it became windy along western coasts. There was a mix of sunshine and blustery showers for the 25th. It was wet for most of the 26th, the rain becoming lighter and patchier into the evening. Patchy rain for most places early on the 27th, but it turned drier and brighter in the afternoon. It was cloudy and windy on the 28th with patchy rain or showers. The 29th was a day of sunny spells and scattered showers, and it was breezy along western and southern coasts. The 30th was a day of sunny spells and scattered showers.

Scotland diary of highlights

September began changeable with westerly and south-westerly winds, and this unsettled but warm regime persisted for most of the month. Temperatures were generally more anomalously high by night than by day, although a few locations reached the mid-twenties Celsius on the 7th, 13th and 15th.

The mean temperature for September was 1.8°C above the long-term average, making it the second warmest September in a series from 1910. It was a wet month in the west, but drier than average in the east, especially Aberdeenshire, with 106% of average rainfall overall. Sunshine was 92% of average, and it was a cloudy month in the south and west, but sunnier than average in Aberdeenshire.

1st to 6th:

The 1st was cloudy with bands of rain moving across the country during the day after a bright start in the east. The 2nd stayed quite warm with sunny spells and some showers across the north-west. The 3rd started dry before rain moved into Border areas late afternoon, with sunshine and showers further north. The 4th had scattered showers in the north-west but sunny periods too. It turned warm again on the 5th with showery rain in the west but some sunny intervals in the east. The 6th was a generally sunny day except in the south-west, but with rain across Argyll & Bute later.

7th to 11th:

There was a cloudy and misty start on the 7th with patchy rain, but it brightened up with some sunshine across Aberdeenshire where temperatures reached 25 °C at Fyvie Castle, cloudy further west with rain later. The 8th was cloudy and wet with heavy rain in the west moving north-east across the whole country, clearing the north coast later in the day. The 9th was mainly cloudy with scattered showers in central parts, drier further east before more heavy rain spread from the west and it became windy. The 10th was largely sunny, with Lerwick recording 11.8 hours of sunshine, and showers mainly in the west. After a fine start on the 11th rain spread from the west, becoming persistent and heavy with 92.4 mm recorded at Skye, Alltdearg House.

12th to 15th:

The 12th was breezy but quite warm after early rain in the NW Highlands turned showery across East Lothian and the Grampians later. The 13th was a warm and humid day with showers through Border and Grampian regions, with Floors Castle (Roxburghshire) recording a maximum temperature of 26.1 °C. The 14th was cool and cloudy with rain in the north-west and thundery showers later across East Sutherland and Caithness. Fog cleared to the east on the 15th to leave a sunny, warm day but with rain spreading in from the west from late afternoon.

16th to 23rd:

The 16th was a dry day with sunny spells, following overnight showers with thundery outbreaks for Northern Isles and eastern coasts. The west was overcast with patchy rain on the 17th but many other areas had a dry and sunny day. The 18th started foggy, bright in the east with rain in the west spreading eastwards over the course of the day. The 19th was a mainly dry day with sunny spells, but cloudier with patchy rain over western coasts. The 20th had a foggy start across the east coast, through the Borders to the south-west, clearing by lunchtime to leave a bright or sunny day, with some patchy rain over the Western Isles. The 21st was mainly cloudy with rain in the west around lunchtime, moving slowly and erratically eastwards across all areas. Bands of rain crossed the country during the 22nd with brighter, drier periods in between. The 23rd started bright or sunny with showers across the NW Highlands, cloud increasing late morning with rain spreading from the west.

24th to 30th:

The 24th was cloudy with heavy rain across western and central areas, drier further north and east with the rain moving east becoming more patchy. The 25th was a day of showers, heaviest and with some hail in the west, drier and brighter in the east. The 26th started on a chilly note with Aboyne (Aberdeenshire) recording an overnight minimum temperature of 0.1 °C, remaining bright in the north-east, cloudier elsewhere with rain or drizzle. Cloudy with patchy rain to start the 27th, brightening up in the east with the wet and windy weather confined to the north and west by the afternoon with Loch Glascarnoch recording a maximum gust of 71 mph. It was wet and windy everywhere on the 28th with the heaviest rain in the north and west. The 29th was windy with sunny spells and scattered heavy showers. The 30th was another day of sunny spells with scattered, heavy showers.

Northern Ireland diary of highlights

September started unsettled with a west to south-westerly airstream, and it remained unsettled for most of the rest of the month, with frequent rain, especially in the west. It was generally warmer than average, especially by night.

The mean temperature for September was 1.2 °C above the long-term average. It was a cloudy and wet September in the west, but sunshine and rainfall were close to average in the east. Overall, Northern Ireland had 106% of average rainfall and 84% of average sunshine.

1st to 7th:

The 1st was cloudy with patchy rain throughout the day. There were sunny spells on the 2nd but showers developed in the afternoon, and it was warm with a maximum of 23.4°C at Castlederg (County Tyrone). The 3rd was a wet day with early rain and a band of heavier showers in the evening, mostly across the south. It was quite warm with sunny spells during the day on the 4th but cloudy with rain in the evening. Patchy overnight rain cleared early on the 5th leaving a warm, sunny day with temperatures into the low 20s Celsius. There was a cloudy and warm start on the 6th with drizzle and patchy rain developing later. The 7th was mainly cloudy and dry with patchy mist/fog in the morning, but some sunny intervals developed in the afternoon with the odd isolated shower, and it was warm with temperatures in the low to mid-twenties Celsius.

8th to 15th:

There was a wet start to the 8th but rain soon cleared the east coast of the Province, showers developing behind, and more rain moving across the far south-east in the evening. More heavy rain and wind on the 9th moved across the Province, with 25.6 mm of rain at Trassey Slievenaman (County Down), but the rain cleared the east coast by late evening with some clear skies developing, and it turned windy with a maximum gust of 54 mph at Magilligan (County Londonderry). It was bright or sunny on the 10th with afternoon showers. There was a bright or sunny start to the 11th, but it clouded over in the afternoon with some rain for the north-west. Overnight showers cleared early on the 12th to leave a cloudy and breezy day. The 13th was warm and sunny

with 9.7 hours recorded at Magillgan but it was muggy after early rain. The 14th was largely dry after early showers in the north-west, and warm with 25.3 °C recorded at Killowen (County Down). The 15th was cloudy with patchy rain.

16th to 23rd:

It was drier on the 16th with sunny spells but turned cooler. There was a bright start to the 17th, clouding over in the afternoon. Wet on the 18th, turning brighter with showers from late afternoon. It was cloudy with patchy rain in the morning of the 19th, drier in the afternoon. The 20th was generally cloudy with light rain arriving from late afternoon. The 21st was cloudy with rain from mid-morning in the west moving slowly eastwards and clearing the east coast by late evening. The 22nd started chilly with an overnight minimum temperature of 0.1 °C at Katesbridge (County Down) then mainly dry and sunny, before more cloud and rain arrived late afternoon in the west, clearing the east coast by late evening with scattered showers following behind. The 23rd had a bright start before cloud increased in the morning with patchy rain across the north and west of the Province, drier in the south-east, and it was breezy.

24th to 30th:

The 24th was a cloudy, wet and windy day across the Province with heavy rain clearing the east coast in the evening. Sunshine and blustery, heavy showers for the 25th. The 26th started wet but turned dry and bright in the afternoon. The 27th was mainly dry and bright. The 28th was cloudy with rain arriving in the evening. The 29th was a day of sunny spells and scattered, heavy showers and breezy along northern coastal areas. The 30th had a dry start but cloud developed through the morning with scattered showers in the afternoon.

Last updated: 5 October 2016

Met Office